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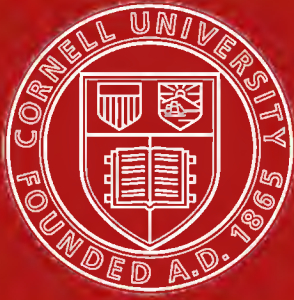
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Local survey and city planning proposals



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**CITY OF BRISTOL  
CONNECTICUT  
EXISTING CONDITIONS MAP  
Prepared as a basis for  
Proposed City Plan  
1920**

**JOHN NOLEN CITY PLANNER  
HARVARD SQ. CAMBRIDGE MASS.**

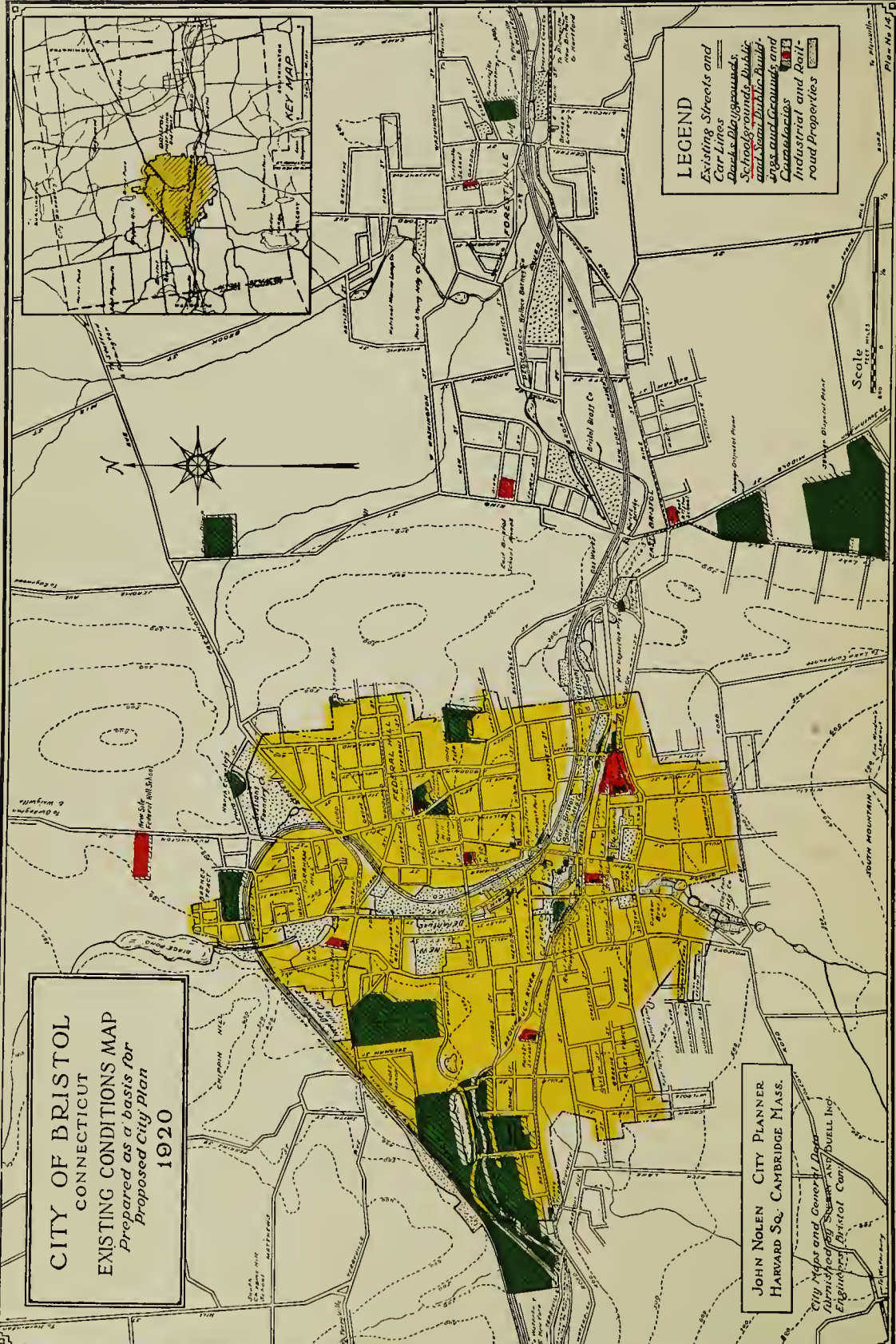
*City Maps and Corset L. Dept.  
Carnegie Library, Boston and Duell Inc.  
Engineering, Bristol Conn.*

**LEGEND**

- Existing Streets and Car Lines
- Parks Playgrounds, Schools, Grounds, Public and Semi-Public Buildings and Carousels and Amusements
- Industrial and Railroad Properties

Scale  
1" = 100' = 1000'

Plan No. 14



**LOCAL SURVEY**  
**AND**  
**CITY PLANNING PROPOSALS**  
**FOR**  
**BRISTOL, CONN.**

**SECTION I LOCAL SURVEY**  
**SECTION II CITY PLANNING PROPOSALS**

**BY**  
**JOHN NOLEN, CITY PLANNER**  
**CAMBRIDGE, MASS.**

**1920**

“I BELIEVE IN THE QUIET, EFFECTIVE WORK WHICH  
GETS PATIENTLY AT THE FACTS AND PRESENTS THEM TO THE  
INTELLIGENT JUDGMENT OF THE COMMUNITY.\*\*\* INSIST  
UPON MEASURES WHICH THE FACTS SEEM TO JUSTIFY.”

—HON. CHARLES E. HUGHES.

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JOHN NOLEN  
LANDSCAPE ARCHITECT

HARVARD SQUARE

CAMBRIDGE

MASS.

PHILIP W. FOSTER  
ASSOCIATE

20 July, 1920

Hon. Joseph F. Dutton,  
Mayor of Bristol,  
Connecticut.

Dear Sir:-

We take pleasure in submitting for your consideration a report and plans embodying our city planning proposals for Bristol.

These proposals are based on the local survey for Bristol already submitted, following definitely the program outlined earlier for the city planning studies. They constitute the second section of the work, and are complementary to the local survey.

Very truly yours,

JOHN NOLEN.



**SECTION I**  
**THE LOCAL SURVEY**

## MAPS—SURVEYS

The following maps submitted in Mr. Nolen's report appear in this book.

Existing Conditions Map—Frontispiece.  
City Planning Proposals—Scheme B.  
North Side Center.  
Village Center at Forestville.

The following maps submitted in Mr. Nolen's report do not appear in this book.

U. S. Geological Survey Map, 1920.  
Price & Lee Directory Map of Bristol.  
Sperry & Buell, Inc., Map of Bristol.  
Public School Map.  
Housing Survey.  
City Planning Proposal—Scheme A  
Center of City, General Plan.  
Center of City, Showing Changes.

## SECTION I LOCAL SURVEY

### Topography

The town is divided into two topographical sections, roughly on a north and south line marked by Jerome Street, King Street, and Lake Street: that to the east, including Forestville, being relatively level land, comprising about one-third of the total area of the city, rising to the level of only about 300 feet; and that to the west, including the main center of Bristol, being extremely rough and broken, rising in the north in Chippin Hill, to over 600 feet, and in the south reaching, on South Mountain, an elevation of over 1,000 feet.

### The Pequabuck River

The Pequabuck River divides the city into a north and a south section by a narrow valley that drops from Terryville 250 feet to East Bristol and another 50 feet across the plain to Forestville.

### Location of Bristol

Bristol is located 10 miles from New Britain and 20 miles from Hartford, on the Highland Division of the New York, New Haven & Hartford Railroad; and 15 miles east of Waterbury. The surrounding townships are Burlington to the north, Farmington and Plainville to the east, Southington and Wolcott to the south, and Plymouth to the west.

### Ponds and Lakes

There are in the neighborhood of Bristol a number of attractive ponds and small lakes, of which Lake Compounce to the south, in Southington Township, is the most popular.

### Area of Bristol

Bristol is approximately five miles square, containing an area of 17,278 acres, these boundaries being established in 1806. The annexation of a farm in 1875 produced the little irregularity of the southern boundary.

### First Taxing District

The First Taxing District comprises approximately 1200 acres, extending from East Road on the south to the Barnes Tract on the north, and from Muzzy Triangle on the west to the stand-pipe on Federal Hill to the east. The district is approximately a little less than two miles north and south and about the same east and west, having about a one mile radius from the intersection of Center and Main Streets.

### Forestville

Forestville covers a relatively small area, all the development being within a half mile radius of the railroad station.

### Irregular Street Layout

The street layout of Bristol is as irregular as that of an old-world city. The irregularity is due mainly to topographical conditions, to the gradual growth of the city during a long period, and the haphazard practice of laying out and extending streets. Except in a very few places, there is no parallel street system. The topography and the practice of dividing one property at a time have also resulted in the development of many stub-end streets and incomplete subdivisions.

### Road Approaches

There are only two natural approaches to Bristol from the east, one by way of the valley of the Pequabuck River over the Waterbury-Hartford road (the State Road), and the other through the gap in the hills, over Farmington Avenue (a State Aid Road), and there are only two north and south continuous main thoroughfares, both of which connect Plantsville and Southington on the south with Edgewood and Whigville on the north, one being by way of Middle Street, King Street and Jerome Avenue, and the other going through Forestville and north over Stafford Avenue. The other existing streets that carry more than local traffic are as follows:

Hill Street	Wolcott Street	Wolcott Road
Perkins Street	Union Street	East Road
Burlington Avenue	Willis Street	South Street
Maple Street	Lake Avenue	Pine Street
Bellevue Avenue	Birch Street	Todd Street
Main Street	Brook Street	Red Stone Hill Road
N. Main Street	Mix Street	Frederick Street
West Street	Camp Street	Washington Street

## Width and Grade of Streets

The streets now used as main thoroughfares through Bristol are narrow, having an average width of only 50 feet. The majority of the local streets of Bristol, however, are of adequate width for their purpose. The Connecticut State Law requires all streets to be 49½ feet wide. Main and North Main Streets have a width of 50 feet, with 34 foot roadway and 8 foot sidewalks, and carry a single track car line. With the exception of the east and west valley roads, the streets of Bristol are steep, the average grade being in excess of 6 per cent, and the maximum in some instances rising as high as 17 per cent. There are many examples of streets in Bristol with a grade of 10 per cent.

## Street Car Lines

The location of the car lines is shown on the Existing Conditions Map. There is service through the valley from Terryville to Forestville, connecting there for points beyond. There is also service to Federal Hill. During the summer (Memorial Day to Labor Day) there is service to Lake Compounce, and from there on to Southington and Meriden.

## Sanitary Sewers

All of the First Taxing District is served by sanitary sewer. Beyond that district there are no public sewers. The sewage of Bristol is taken care of by sand filtration and penetration beds of the disposal plant owned by the city, and located in East Bristol on Lake Avenue. The difficulty and cost of extending the sewer system is one of the most important problems in the development of Bristol, and one affecting some of the city planning proposals. Suitable provision for sewers for Forestville should be considered at this time.

## Water Supply

City owns and operates the water system. There are four reservoirs all located northwest of the city in the Poland River section. The water is distributed by gravity, and the service is metered. The water is pure, wholesome and palatable, and the supply adequate for the present demands. Provision is being made for the necessary increase in reservoir storage in accordance with the growth of the city.

## Other Public Utilities

Gas, electricity, heat and power are provided by a private concern, the Bristol & Plainville Tramway Company. The Gas Plant is located in East Bristol and the Electric Light and Steam Generating Plant at the rear of the City Hall. Steam heat is supplied to stores, public buildings and residences within a half-mile radius of the plant.

## Street Improvements

All streets in the First Taxing District are at least rough graded. The total length of streets in Bristol is approximately 100 miles of which 30 miles are in the First Taxing District. Six miles or approximately 6 per cent of this total length has permanent pavement and five miles of the six is on the State Highway.

## The Size of Blocks

The sizes and shapes of blocks in Bristol are exceedingly varied, resulting from the practice through the years in the laying out of streets. There is no uniformity whatever about the size of blocks, and it is difficult to make a statement which would give an approximate idea of their dimensions. Some blocks are of excessive length,—over one-fourth of a mile. The depth of blocks varies from 160 feet to 250 feet.

## The Size of Lots

The typical lot in new subdivisions is 50 feet by 125 feet, but this sized lot is used almost invariably for two-family houses. There are many lots whose frontages are only 20 feet, 25 feet and 40 feet. There is no regulation in the building ordinances, as there should be, requiring a specified distance between buildings.

## Parks and Playgrounds

The following list gives the parks and playgrounds of Bristol and their approximate acreage:—

Rockwell Park . . . . .	90 acres
Muzzy Athletic Field . . . . .	5 "
Muzzy Triangle . . . . .	½ acre
Prospect Park . . . . .	¼ "
Federal Hill Green . . . . .	4 acres
Root Island Playground . . . . .	1½ "

## Rockwell Park

Through the interest and generosity of Mr. and Mrs. A. F. Rockwell, the City of Bristol has secured a large and beautiful playground-park, one of the best and most complete recreation areas of the smaller cities in New England. The Pequabuck River, irregular ground and woods are the principal topographical features. Large opportunity is offered for swimming and skating, and many forms of play.

## Muzzy Athletic Field

Muzzy Athletic Field is an excellent play field with stands and dressing rooms built by subscriptions from generous citizens. It is popular for baseball and other athletic events, and is actively used on Sundays as well as week-days. For games on special occasions, except Sundays, admission charge is made.

## Muzzy Triangle

Muzzy Triangle at Park and Divinity Streets is a well located recently acquired small open space.

## Prospect Park

Prospect Park (railroad property) is the open place to the north of the railroad station.

## Federal Hill Green

This ancient green, established in 1747, is typical of the earlier period of Colonial days when some sort of green or common was almost invariably set apart in the laying out of towns and villages. This Green was first used as a drill ground by the militia; in later years the space has been appropriated for play purposes by the pupils of the adjoining public and parochial schools.

## Root Island Playground

Root Island Playground is centrally located in a section which needs a playground.

## Public Schools

The following are the Public School properties:—

District	School Name	Enrollment		
		Boys	Girls	Total
*1	Federal Hill	331	292	623
*2	North Side	224	237	461
*3	South Side	382	361	743
*3	Park Street	141	160	301
*5	East Bristol	190	206	396
6	Stafford	36	33	69
8	Burlington	11	12	23
9	Edgewood	15	14	29
10	South Chippin Hill	17	13	30
11	North " "	6	6	12
12	Fall Mountain	10	4	14
*13	Forestville	188	187	375
		<hr/>	<hr/>	<hr/>
		1551	1525	3076
	*High School	155	228	383
		<hr/>	<hr/>	<hr/>
*City Schools	Total	1706	1753	3459

Average daily attendance exceeds 95% of enrollment.

## School Sites

The sites of the existing school buildings of Bristol are all small, being about two acres or less in extent. This area is quite insufficient to provide for local neighborhood play and recreation. The school sites also have the disadvantage of not being bounded by streets. To meet the normal requirements for grade school playgrounds a full block for each school should be acquired, assuming that such a block comprises three or four acres of land. The High School play field should be ten acres or more.

## New High School Site and Boulevard

In the autumn of 1919 Mr. A. F. Rockwell offered to the City of Bristol a certain tract of land containing about twelve (12) acres for High School purposes, with the provision that the City of Bristol acquire the land for a Boulevard, approximately 100 feet in width, from Main Street to the High School Site, and also construct the Boulevard and the connecting streets to Mellen and South Streets. The Chamber of Commerce in looking over Mr. Rockwell's proposition decided that it would be a good idea to carry this highway on through to Riverside Avenue near the Down's Mill, and a committee from their body placed this before the City Council. The two propositions were submitted to referendum vote at the election held in November and accepted by a large majority.

## Public and Semi-Public Property

The grounds connected with all of the public and semi-public buildings of Bristol are small, providing very limited open spaces. There has been no attempt to group the public or semi-public buildings with the exception of the schools and churches around the Federal Hill Green.

## Building Distribution

Industrial properties in the main are situated on or close to the railroad. The boundaries of the First Taxing District correspond very closely to the limits of the built-up section of Bristol with the exception of the Forestville district. The best residential property is on Federal Hill. The fire limits which contain practically all of the retail stores includes Main Street, Church Street, Laurel Street, N. Main Street, Pond Street to Lincoln Street. Aside from this district there is a group of stores on Central Street, Forestville and a few scattered stores through the residential districts.

## Value of Retail Business Property

The highest assessed values of land in Bristol are \$300 per front foot at the Gridley corner, Main and North Main Streets, and the Bristol Trust Company corner, Main Street and Riverside Avenue. The retail business section of the city is at present very limited in extent, largely because of topographic conditions and the lack of broad planning. The actual values of the highest priced retail business property is probably in the neighborhood of \$600 per front foot. Business has expanded north on Main Street to High Street, where the assessed values are now only \$75 per front foot. Expansion of the business is noticeable south on Main Street to South Street, where the character of building operations now shows the transition from residences to stores. The assessed value per front foot at Main and South Streets is only \$50, the actual value being, perhaps, three times that sum. North Main Street likewise is in a transitional stage from residences to stores, especially north of Center Street. Industries occupy part of the frontage on this street, producing breaks in the development to the disadvantage of retail store expansion.

## Value of Residential Property

The best residential section is the high ground of Federal Hill, with mostly southern and southwestern exposure. The highest values are in Bellevue Avenue and Maple Street, ranging from \$80 per front foot just north of High Street, to \$30 per front foot. The actual values, perhaps, are \$100 and \$50 respectively. The lowest assessed values in this neighborhood are about \$20 per front foot. Federal Hill has all improvements. The lowest values (\$10 per front foot) for residences in the First Taxing District having all improvements are in the Ingraham Hill section.

Forestville is for the most part an old residential section, with comfortable, well built houses on large lots. There are no public sewers, but other utilities and improvements. The average assessed value is approximately \$10 per front foot. The Bristol Brass Company's King Street development has all improvements, including private sewage disposal plant, the front foot valuation averaging about \$10. Acreage property in Bristol is still to be had at reasonable prices, ranging anywhere from \$100 to \$1,000 per acre for land suitable for building. Farm land can be had at about \$100 per acre. Rough wooded land drops as low as \$20 an acre, and the mountain slopes to the south are still lower.

## The Budget of Bristol

The estimate of city expenditures for Bristol for 1920 are as follows:

General City	\$1,243,873.30
First Taxing District	108,755.74
Second Taxing District	2,150.00

An itemized statement of the estimate approved and voted by the City Council for 1920 has been printed in the local newspaper.

## Population

Bristol is now increasing rapidly in population. Figures showing the growth of population are as follows:—

Year	Population
1820	1,362
1830	1,707
1840	2,109
1850	2,884
1860	3,436
1870	3,788
1880	5,347
1890	7,382
1900	9,643
1910	13,502
1920	20,620



## Center of Population

The center of population of the First Taxing District is approximately half-way between Meadow and Center Streets just east of North Main Street. This location was obtained by using the school enrollment figures as an indication of the distribution of population and by assuming the schools to be located centrally in their respective districts. The number of voters by wards gives practically the same result. There are two other minor centers of population, one at Forestville and the other at East Bristol each of which would coincide closely to the school locations at these centers.

## Direction of Future Growth

If it is possible to predict with any certainty the direction of a city's growth, those in charge can plan for the sewer, water and other improvements much more intelligently. Due to topographic conditions Bristol will grow to the south only with great difficulty; to the west the Rockwell Park, railroad and rough hilly conditions shut the city in; to the north there is suitable land for housing developments and also to the east of Federal Hill on the plains west of Forestville. Therefore it would seem to be in these two sections that extensive developments will take place if Bristol continues to grow and if the people are to be housed on suitable land and in an economic manner. Federal Hill offers good opportunities for more residences of a higher class.

## Railroad Grade Crossings

Because of topography the railroad situation in Bristol is unfortunate to say the least and it is further complicated by the number of grade crossings some of which are extremely dangerous. These conditions will be difficult and expensive to correct but as the city grows the need for the elimination will be ever greater and the present is the time to begin the study of the problems involved. The separation of the railroad and highway is only one phase of the grade crossing question, and the city authorities should watch carefully all such work to be sure that the highway traffic is provided for properly. The King Street underpass at East Bristol is an example of a grade separation that is even more dangerous in its present state, because of the sharp turn and blind corner, than are many of the other railroad grade crossings in the city.

## Park Possibilities

There are two outstanding natural features in Bristol that immediately suggest park possibilities; first, Pequabuck River with its tributary brooks and ponds, and second, the steep, rocky, wooded hills that surround the city. A start has already been made toward the control of the river banks at Rockwell Park, Root Island and the new Boulevard Property. Birge Pond, the city reservoirs and Lake Compounce have great possibilities as recreation centers. Large reservations should be acquired on South Mountain and Chippin Hill and smaller park areas on Federal Hill and the densely wooded slopes to the north across Farmington Avenue.

## Housing Conditions

During the war Bristol's industries had a period of great expansion, but at the same time the normal development of housing facilities was not maintained and the result was, as in practically all American industrial communities, a housing shortage. To meet these conditions the Bristol Realty Company, New Departure Realty Company, the Bristol Brass Co. and the National Marine Lamp Company started housing projects that have produced a total of approximately 400 houses (mostly two-family houses) and taken care of approximately 750 families. These developments have gone a long way toward relieving the demand for houses but only for the present.

## Housing Survey

The following data was included in the Housing Survey:—

### Built up areas

- Bristol
- East Bristol
- Forestville

### Present housing developments

- Bristol Realty Company (Barnes Tract and Riley Tract)
- New Departure Realty Company (Endee Manor)
- Bristol Brass Company (King Street and Kenney Street)
- National Marine Lamp Company (Stafford Avenue)

### Parks

- Playgrounds
- School grounds
- Public and semi-public buildings
  - Post Office
  - Library
  - Old Town Hall
  - Railroad Station
  - Fire Department Locations

- Public grounds
  - City dump
  - Sewage disposal plant
- Cemeteries
- Store Properties
- Industrial and railroad properties
- Areas suitable for future housing
- Direction of Prevailing Winds
- Public utilities
  - Sewer connections in First Taxing District and King Street development of Bristol Brass Company.
  - Water supplied in all built up areas.
- Congested housing area
  - Meadow and Laurel Streets section; residences back of store properties on North Main Street; tenements south side of School Street between Main and Church Streets. Such undesirable conditions should be eliminated as soon as possible.

### **Future Housing**

As the population of Bristol increases new areas will have to be developed, the present property within the First Taxing District being practically all built up. To the south the rugged character of the slope of South Mountain prevents a normal expansion of houses on an economic basis. The same is true of conditions to the west and northwest. Such areas can be developed for better class houses or for small houses with large lots. Federal Hill stands in the way of expansion east but beyond the slopes out on the plain west and northwest of Forestville are large tracts that would make ideal sites for extensive housing projects. Another section that should be used for housing developments is that north and east of Birge Pond. This area is of limited extent but could be advantageously built up and would take care of a good sized community in the future.





# BRIEF HISTORICAL SKETCH OF BRISTOL, CONN.\*

## CHRONOLOGICAL OUTLINE 1645=1920

Population	
Year	Population
1790	2,462 (this includes Burlington)
1800	2,723
1810	1,428 (after separation of Burlington)
1820	1,362
1830	1,707
1840	2,109
1850	2,884
1860	3,436
1870	3,788
1880	5,347
1890	7,382
1900	9,643
1910	13,502
1920	20,620

### Principal Manufactured Products

Clocks and Watches, Ball Bearings, Coaster Brakes, Bells, Brass Sheets, Tubes, Rods and Wire, Nickel Silver, Silver Plate, Knit Underwear, Marine Lamps, Trunk Hardware, Grey Iron Castings, Counters, Piano Hinges, Arm Elastics, Shears and Scissors, Glass Cutters, Steel Fishing Rods, Saws, Furnaces.

### Settlement

1645—The Town of Farmington incorporated, including the present territory of Southington, Berlin, New Britain, Bristol, Burlington, Avon, Plainville, and parts of other towns.

1663—The Town of Farmington granted to John Wadsworth, Robert Bromson, Thomas Barnes and Moses Ventruss "forty acors of meddow Land Lying att the Place we comonly Call Poland," probably in East Bristol or Stafford District. This Thomas Barnes was an ancestor of the present owners of the Wallace Barnes Company.

1721—The Town of Farmington laid out the land west of the existing settlements in six tiers of lots, each about 11 miles long and 1 mile wide, and divided these strips among the Farmington settlers in proportion to their ownership. The westerly five of these strips are the present towns of Bristol and Burlington.

1727—Daniel Brownson of Farmington bought a farm and built a house near the corner of South and West Streets. This house and this family have both long disappeared from Bristol.

1728—Ebenezer Barnes and Nehemiah Manross bought lots and built houses near the Bristol Brass Company Plant. Both these families still live in Bristol; and the Barnes house is the middle part of the Bristol Brass Company's boarding house.

1835—The first factory built in Forestville, and that name given to the village. There were already a few dwelling houses there.

### Local Government

1785—The Town of Bristol incorporated, including what is now Burlington.

1806—Burlington set off as a separate town.

1885—Celebration of the 100th anniversary of the incorporation of the town; historical and other addresses published.

1894—The Borough of Bristol incorporated, covering about a square mile in the center.

1911—The City of Bristol incorporated, limits co-extensive with the town.

1914—Rockwell Park presented to the City by Mr. A. F. Rockwell.

1919—Electors voted to build boulevard and new high school.

\* Prepared by Judge Epaphroditus Peck of Bristol.

## Public Institutions

1742—Liberty given to “the Southwest Winter Society” to hire a minister during the winter months.

1744—This ecclesiastical society incorporated as “The New Cambridge Society.”

1747—The First Congregational Church organized, and Reverend Samuel Newell called as its minister. Ten dissenters “publikly declared themselves of the Church of England, and under the bishop of london.”

1753—The first Congregational Church building completed. The second meeting house of this church was completed in 1771, and the third and present building in 1832.

1754—The Episcopalians built a church where the Federal Hill School now stands. This church was abandoned, and the Episcopalian communicants united with Episcopalians from other towns in establishing the parish at East Church after the Revolution. Trinity Church has no corporate connection with this early church.

1754—Two school houses built, one on Federal Hill and the other on Chippin’s Hill.

1802—A Baptist Church built on West Street. New Church on School Street in 1880. This building partly destroyed by fire in 1919.

1834—The Methodist Church organized. This church built on West Street in 1837, and removed to Summer Street in 1880.

1834—Trinity Church organized. This church built on Maple Street in 1835, removed to Main Street in 1863, and to High Street in 1889.

1840—Roman Catholic services begun about this year for laborers at the Copper Mine. In 1855 a church was built on the present site.

1883—Bristol High School organized in the Third District schoolhouse; a high school built on Summer Street in 1892. New high school building now being planned.

1892—January 1, Bristol Public Library opened in Ebers building on North Main Street. Library building on High Street built by public subscription in 1906-7.

## Industrial and Business

1790—At or before this date Gideon Roberts began making wooden clocks. He lived in the house in which the town poor are now kept. This was the beginning of American clock making.

1805—Stage route built through Bristol from Hartford to Litchfield. The tavern and post office were at the present corner of North and North Main Streets

1837—The Bristol Manufacturing Company organized

1843—Brewster and Ingraham began making clocks. This was the beginning of the present E. Ingraham Company

1845—Col. E. L. Dunbar, predecessor of the Dunbar Brothers Co. began manufacturing springs.

1850—The Bristol Brass and Clock Company, now The Bristol Brass Company, organized.

1850—Bristol Knitting Company organized, now N. L. Birge & Sons Company.

1850—About this year the Hartford, Providence & Fishkill Railroad was built through the town, now a part of the New York, New Haven & Hartford Railroad system. The post office and business center moved to the south side.

1857—Wallace Barnes began manufacturing springs, predecessor of The Wallace Barnes Company business.

1869—J. H. Sessions removed from Burlington, and began the J. H. Sessions & Son business.

1870—The Bristol Saving Bank incorporated. Later banks were the Bristol National Bank 1875, Bristol Trust Company 1907, American Trust Company 1919. Total bank deposits January 1, 1920, \$13,033,919.69.

1871—The Bristol Press began publication as a weekly; it changed to a semi-weekly in 1910, to a daily in 1916.

1878—The Sessions Foundry Company organized.

1890—The New Departure Bell Company, now the New Departure Manufacturing Company organized. Three men, A. F. Rockwell, E. D. Rockwell and Seth W. Beebe, were officers, office help and workmen.

1907—The C. J. Root Co. organized taking over the business of Charles J. Root.

## War Service

1776-1783—Eighty-nine New Cambridge men known to have served in the Revolutionary War. Doubtless the full number was more than this.

1861-1865—Enlistments in the Civil War credited to the quota of Bristol 387. In 1865 a Soldiers’ Monument was built, one of the first in the United States.

1917-18—Over 1300 men from Bristol served in the World War; over 30 commissioned officers; 39 deaths in the service.

## SECTION II CITY PLANNING PROPOSALS

### PROGRAM FOR CITY PLANNING STUDIES

After a careful study of the survey material collected, the following seven subjects are submitted which constitute an outline of procedure along which to work in preparing the city planning studies.

**1 Improvement of Main Thoroughfares**

*Because* of the automobile and the concentration of all traffic on two through roads.

**2 Expansion of Retail Business Area**

*Because* of growth of city and one street character of present business district.

**3 Centering of City's Public Activities**

*Because* of present drifting and uncertain development.

**4 Expression of Civic Spirit**

*Because* of its lack, Bristol has no adequate central green, city hall, etc.

**5 Improvement of Factory District**

*Because* of bad topographical conditions, impossibility of expansion and poor access.

**6 Improvement of Railroad Facilities**

*Because* present railroad sidings, yards, and passenger and freight stations are outgrown.

**7 Improvement of Housing, Schools and Local Recreation**

*Because* of pressing need for more and better homes, schools, and local parks and play areas.

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## SECTION II CITY PLANNING PROPOSALS

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### I IMPROVEMENT OF MAIN THOROUGHFARES

#### Through Highway Traffic

Unlike most cities Bristol does not have a radiating system of heavy traveled highways. There is practically no travel north and south from the central area of the city, first because there are no large towns in these directions, and second because the semi-mountainous country to the north and south discourages direct through communication.

The bulk of the travel is along an east and west line following the general direction of the railroad passing through the natural gaps in the hills and connecting such centers as Hartford and Waterbury. These routes, two in number, carry a large amount of traffic especially during the summer months when the automobile tourist travel is at its height.

#### North Traffic Route

The more northerly route over Farmington Avenue is well located and if some of its steeper grades could be reduced and state highway standards of surfacing be adopted this line of travel would be very extensively used by motorists as it passes through pleasant country and avoids the congestion of the down town district of Bristol. Farmington Avenue, North Street and Terryville Avenue which taken together make this through route should be widened to 60 feet and eventually should be developed with 32 foot roadways. Where Farmington Avenue crosses the plain north-east of Federal Hill it is recommended that it be widened to 84 feet and in the future developed as a real boulevard thus giving unity and distinction to this section of Bristol.

#### South Traffic Route

The southerly route comes into the city from Forestville over Broad Street and Riverside Avenue and goes west over Park Street and Terryville Road to Terryville. The line follows the Pequabuck River and so has the advantage of the water course grade. Most of the distance is over a state highway and the surfacing is therefore very good but of inadequate width to serve the present traffic requirements. The very awkward grade elimination at East Bristol and the poor connection through the center of the city makes this way as a thoroughfare through Bristol dangerous, congested and inconvenient.

#### Traffic Relief for Riverside Avenue

The proposed New Boulevard would help to relieve the present congestion on Riverside Avenue but would still rely upon the present dangerous underpass at King Street and would still bring the through traffic into the business area of the city.

#### New Highway—East and West

To supplement Riverside Avenue the plan suggests the development of a new route linking up Pine Street and South Street as far as the corner of Union Street from which point a new diagonal road is shown constructed in such a way as to connect with Divinity Street and thus leading into Terryville Road. This new street follows easy grades and throughout its entire length the proposed location is practically free from houses or other costly improvements. Another alternative routing from the Union Street corner would be over the proposed extension of South Street which follows along the hillside to Peck Lane and then swings down the grade to the Waterbury Road. The one bad feature of the Pine-South Street route is at East Bristol where the road goes over the steep hill. The alignment and grade of the present roadway could be greatly improved and this street made a satisfactory main line for through traffic. It is also suggested that the present sharp curve in South Street at Willis Street be lengthened and made less dangerous. The proper development and surfacing of the Pine-South Street route would tend to take the bulk of the through traffic now using Riverside Avenue and would thus leave that street free for local use and heavy trucking.

#### Thoroughfares—North and South

There are only two north and south thoroughfares that are important: Middle Street, King Street and Jerome Avenue form a north and south route passing through East Bristol and connecting Southington on the south with Edgewood to the north; and Birch Street, Anderson Street, Stafford

Avenue, Brook Street and Mix Street which form a second highway connection between the same two towns but passing through Forestville in place of East Bristol. King Street from East Bristol north over its entire length to Farmington Avenue is shown widened to 84 feet. This comparatively level area east of Federal Hill is bound to be extensively developed within the next few years, and the widening of King Street will give an adequate outlet for this district.

### **Secondary Highway Connections**

The routes mentioned above are the only highways that can properly be classed as thoroughfares but there are, however, a number of other streets that are part of the main communication system and that should be considered as cross connections and extensions making the thoroughfare system more convenient and complete.

Within the city West Street, and Main Street with its two branches, North Main Street and Maple Street, form cross links between the two main east and west thoroughfares. The extension of Maple Street over Burlington Avenue to the north to Burlington and the extension of West Street over Wolcott Street and Road to the south to Waterbury are the only two main leads north and south from the center of the city. Hill Street leading from Terryville Road to Harwinton and West Washington Street leading from King Street east through Forestville to Plainville should also be considered a part of the main street system.

### **Street Widths**

All streets that form a part of the main highway system should have an established width of at least 60 feet between property lines and should eventually be developed and have a roadway of 32 feet. In the case of business streets an extra 10 feet should be added to allow for a single car line thus making the roadway width 42 feet.

### **Streets as Related to Topography**

Because of the rough topography of Bristol there is no regular street system. Minor streets have been laid out as best fitted the grades and the property lines of individual holders. The result has been a disconnected arrangement of streets with many dead end streets and inaccessible areas. While it is impossible to make a complete system of the minor streets because of existing developments an attempt has been made to carry through the more necessary links in the system and to suggest a way of opening up some of the areas now unplotted. Practically all the minor streets should be laid out 50 feet wide.

### **Suggested New Street Layouts**

The entire area over the top and on the easterly slope of Federal Hill has been shown subdivided into large blocks by an irregular street layout. This has not been done with the idea that the lines shown could be followed literally but to give a suggestion as to how the property might be divided in a consistent and satisfactory way provided the various property owners could be brought together and the whole area developed as one unit.

## **II EXPANSION OF RETAIL BUSINESS AREA**

### **Lack of Central Shopping District**

Bristol business suffers from lack of a real shopping district and what is needed is an opportunity to get away from the one street idea and induce business to expand about a given center instead of along the one or two main streets.

There is no such focal point at present unless we accept the junction of Main and North Main Streets or Main Street and Riverside Avenue. Both of these points are important but in neither case do the streets form a crossing. The railroad crossing prevents the development of the North Main Street corner and the factories and car barns prevent the extension of business on Riverside Avenue.

### **Suggested Central Development**

The logical line of development would seem to be along Main Street south and if developed in connection with the civic center improvements would become a center of all the city's activities. The New Boulevard, the widening of School Street and the extension of South Elm Street would open up a large amount of business frontage and make such streets as Church, Pleasant and Upson Streets easily accessible from Main Street. The extension of Foley Street from Meadow Street to Laurel Street and the new proposed street from the corner of Laurel and North Main Street to Church Street would also draw business into this area and avoid the bad corner at North Main Street.

### III CENTERING OF CITY'S PUBLIC ACTIVITIES

#### **The Importance of a City Center**

The most far-reaching proposal in connection with this city planning study is the development of a central open area, with its public buildings, recreational features and opportunity for the expression of civic spirit. The decision made in regard to what is to be done in this central area will determine what should be done with many of the other problems now before the city for consideration and action. The questions of thoroughfare connections, high school location, boulevard development, business expansion and railroad station site are all intimately tied up with the design and development of the proposed Bristol Common and central park property.

#### **The Inter-relation of Local Problems**

The whole matter is brought to the fore at the present time because of the proposed High School and Boulevard locations. These two problems have not hitherto been studied with the larger ideas for Bristol in mind but have been considered independently. If carried out as now planned, they will greatly handicap, if not entirely prevent, the ultimate full possibilities of development of these lowlands in the heart of the city.

#### **Main Street as a Shopping Street**

Main Street from the railroad bridge to South Street is the one real opportunity to develop a first class retail business street. The proper building up of this street will depend a great deal on the treatment that is decided upon for the common and other civic features.

#### **Central Open Space on Main Street**

Between South Elm Street and Parallel Street is a block partly owned now by the city and occupied by a relatively cheap class of buildings which could be cleared and made into a central open area at a low cost as compared with land equally well located in other cities in Bristol's class.

#### **Site for City Hall**

The central square and the common would establish permanently a focal point in the city about which everything would revolve and form a feature of adequate size to meet the possibilities of the future as well as the needs of the present. Bristol should begin at once to plan for a new City Hall in keeping with the character and size of the city, and no more fitting place for such a building could be found than Main Street at the head of the proposed open common. Main Street would be widened at this point and with the open square and common the building could be placed so as to bring out its full architectural effect.

#### **High School Site**

For the continuation of the common to the east and its connection with the High School site and park property beyond we suggest the clearing out of the Oak Street houses and the extension of the school property to Oak Street; also the acquisition by the city of all the land, most of which is low, between South Street and Riverside Avenue as far as Downs Street.

#### **Central Area**

This proposal is based on the idea that the High School and Boulevard locations are already fixed and cannot be changed. The common between Elm and Parallel Streets is kept as a simple open lawn with a cross street near its easterly end which cuts off the square and will make a fine site for a public building facing the proposed City Hall. Below the High School property which stops at Mellen Street the area between Riverside Avenue and South Street is treated as park land but unfortunately is rather badly cut up by the proposed Boulevard location as now approved.

#### **Pequabuck River Parkway**

In addition to the larger open tracts the land along Riverside Avenue should be acquired to insure the control and the beauty of the Pequabuck River through this area, also to obtain a park frontage the length of Riverside Avenue and to bring the proposed Railroad Station into the central scheme.

#### **Sites for Semi-Public Buildings**

The land along South Street would be very well located for public and semi-public buildings and would have a fine outlook on the proposed park development and in return the buildings would be set off to great advantage by the foreground of park land.

#### **Proposed Neighborhood Centers**

Bristol has always been a community of three centers and while the future city should have the one dominant centering of its activities, the local subordinate centers at North Main Street

and North Street and the one at Forestville should be developed to take care of these more or less distinct neighborhoods. The following plans submitted show the proposed schemes for these centers.

North Street and North Main Street Center  
Village Center at Forestville

### **Public Comfort Stations**

The question of public comfort stations has been under consideration for some time. It is suggested that four stations be established,—the first near North Street, a second at the present railroad passenger station, a third on Main Street near South Elm Street and the fourth at Forestville. The North Main Street station would be constructed in connection with the Fire House near the proposed new local center.

The facilities at the railroad station should be improved and maintained by the city and railroad jointly. When the time comes to relocate the passenger station if the need is still felt for a comfort station in this section a permanent structure could be built in the bank at the railroad bridge on the east side of Main Street. The railroad station facilities should be supplemented by a more general use of those already existing at the Public Library.

On Main Street at Elm the proposed station could be a temporary one established in connection with the Old Town Hall or better still if the new city hall site could be acquired a permanent public comfort station could be built that would eventually become a part of the city hall building.

The Forestville comfort station could be incorporated with the proposed library building. The tying up of these facilities with public buildings insures more satisfactory use and better maintenance.

## **IV EXPRESSION OF CIVIC SPIRIT**

### **Civic Spirit in the Past**

Not since the first layout of the settlement of Bristol has there been anything in the planning of the city that has in any way expressed a real civic spirit. Federal Green with its churches, schools and old-time mansions is such an expression. Since those days there have been numerous developments in the city's life that have left their mark but they have been due to the energy and foresight of individuals or small groups of citizens and not to an awakened community spirit in which the whole people shared.

### **The Present**

One judges a city as an individual by the expression in deeds and works of its inner spirit. Bristol has reached the point where it should awaken and show to the world that it has ideals above those of common necessities and higher than the mere earning of a livelihood.

Such an expression from a city has, as all good works have, a direct economic return. Not only will the people of Bristol be benefited and obtain a higher standard of citizenship and community life, but such a spirit will attract better and more desirable new comers.

### **The Immediate Future**

Bristol is soon to have a new high school, and a little later, a new city hall and railroad station will be called for; then other public buildings will be needed and in course of time constructed. To plan now for these things that are certain to come in some form or other and to so plan that the best possible relation and grouping of these activities is assured is, however one looks at it, only the part of wisdom. Due to a lack of vision and a smallness of ideals, Bristol is today without a center of any sort and is in the position of one who begins again. Now is the time to start things as they should be started and plan not for today and tomorrow but for the real future that to those who have vision already begins to appear as an accomplished fact.

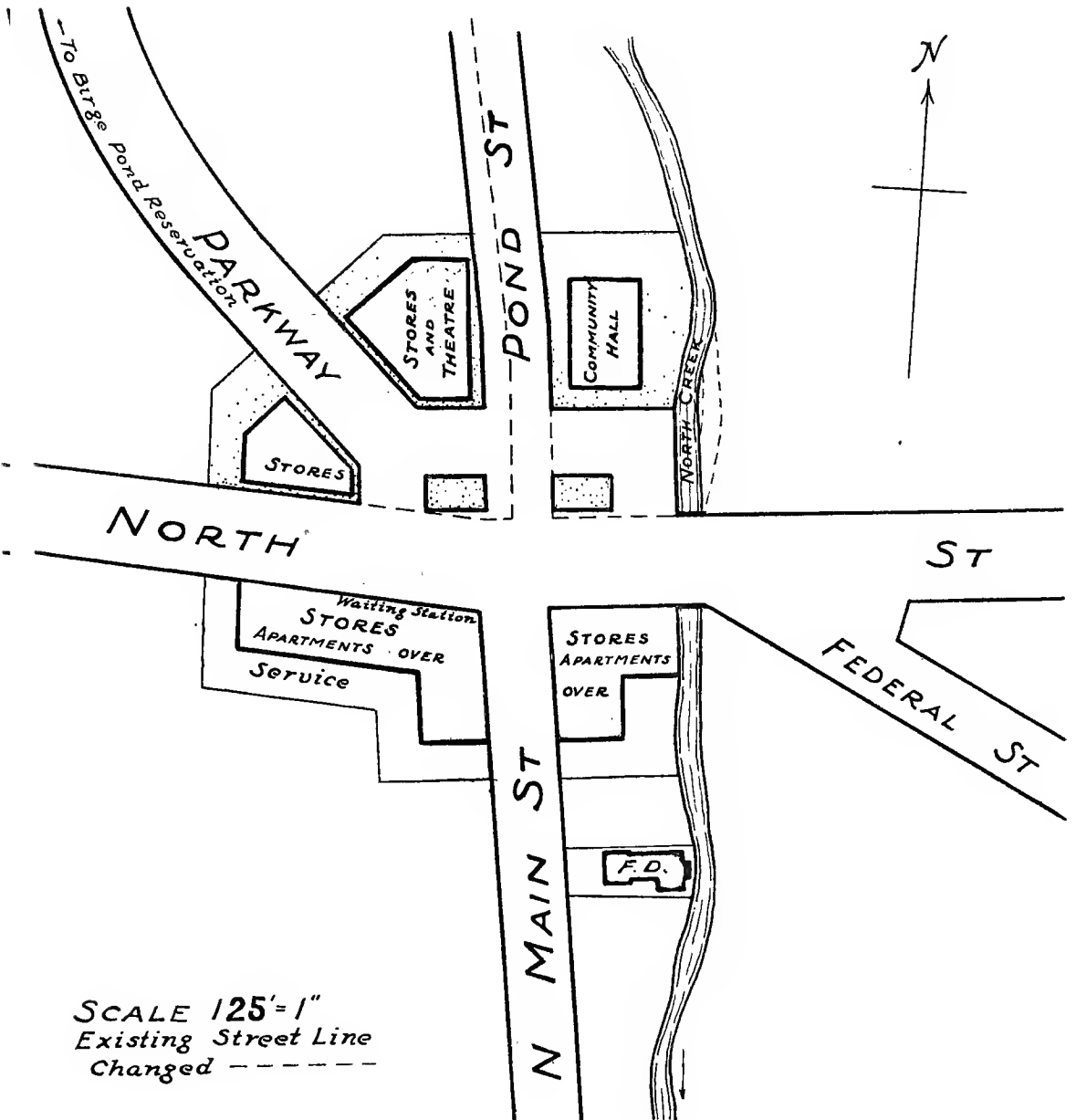
### **Civic Center Idea**

Ever since the council fires of savage days, down through the cross-roads period, the forum and the market place to the civic center of today, communities have had their common meeting places where there were brought together those activities that related to the general welfare. There is no greater opportunity for the expression of the spirit that impels a city to higher ideals than is furnished in the creating of a central meeting place and the building up about such a space of its public buildings and its monuments and memorials.

### **The Opportunity**

With few exceptions the spirit of the past fifty years throughout the country has been such as to prevent any true civic expression. The spirit of sacrifice has not been known, open spaces have been considered too valuable commercially to be left as such and buildings have been erected with only a crude view of convenience and with the idea of getting the most show for the least money. Seldom has a city worked together as a whole but has been agitated by factional jealousies and

DETAIL STUDY OF PROPOSED NORTH SIDE CENTER  
JOHN NOLEN CITY PLANNER  
HARVARD SQ CAMBRIDGE MASS



SCALE 125' = 1"  
Existing Street Line  
Changed -----

disputes that have usually resulted in compromises which satisfied no one except perhaps a few that profited financially. Let us hope that the lessons of the war have not been lost but have brought home to the people of Bristol not only the value of sacrifice when made for true ideals but have also created that feeling of co-operation and harmony that alone makes possible the carrying through of truly great and much needed civic improvements that are at the same time a real expression of civic spirit.

## **V IMPROVEMENT OF FACTORY DISTRICT**

### **Bristol a Manufacturing Town**

Bristol is above all a manufacturing town, the bulk of the people being interested in and dependent upon the factories and their prosperity. Thus the happiness, comfort and standards of living of the major part of the inhabitants of Bristol are governed by the efficiency with which industrial plants can conduct their business. Anything that improves these conditions under which business has to be conducted will be reflected in the life of the city.

### **Future Expansion**

The present industrial areas in the central section of Bristol are pretty well built-up and offer little chance of expansion except at heavy cost due to either grading or the wrecking of other developments. Old plants may make limited enlargements but if new industries are to come to town they must be provided for in the Forestville section.

### **Industrial District**

To forestall an indiscriminate placing of factories in this new territory the city should adopt a zoning ordinance based on the city plan establishing factory districts where the property is suitable for such development and where there is an opportunity for rail and water facilities. Such an ordinance would benefit the factories by making possible the right kind of planning over a large area and would benefit adjacent residential property by making sure that it would not later be depreciated by the introduction within its limits of factories and switch yards.

### **Forestville Area**

The area best suited for industrial development is along the small stream north from the Pequabuck River near Frederick Street. This land is fairly level, in large blocks and easily accessible to main roads and to areas suitable for housing. The prevailing wind is favorable and the stream insures a partial water supply and an outlet for drainage. Railroad facilities could be easily supplied to this district by a switch line that would follow up the valley, leaving the main line just to the east of the river bridge. If in the future the proposed railroad cut-off should be constructed, the connections by rail with this district would be greatly improved.

### **Thoroughfares**

The factories throughout the town as well as in this new area would be helped by the careful development of the thoroughfare system, proper care being given to the questions of grades and surfacing. Certain routes should be set aside as heavy trucking streets and the pavement laid with that use in view; other streets should be developed for lighter traffic and trucks prohibited.

### **Water Supply**

An adequate supply of water is one of the most essential things needed to make a successful factory development. The natural flow is now entirely too small to meet the needs of modern factories and the city should see to it that factory expansion is not handicapped by a failure of the water system either as to quantity or pressure.

### **Railroad Facilities**

Bristol is suffering now from a lack of proper freight handling facilities. The present freight house and yard are much too cramped and pressure should be brought to bear at once to start work on the proposed new yards and the enlargement and reorganization of the present space. A concerted effort on the part of the factory owners backed with a definite plan and scheme of development would go a long way toward impressing the railroad officials with the importance of the question and the desire of the people of Bristol for these improvements. Without such joint action it will be hard to get construction work underway.

### **Housing as Related to the Factory**

From the factory owners point of view a definite supply of labor is absolutely essential. The more contented and healthier the workers are, the better will be the welfare of the plant, so that it has for some time been definitely recognized that housing is one of the most important factors connected with the labor supply. This fact should be kept in mind in locating factory sites, and areas

nearly the works should be set aside for housing and considered as much a part of the organization as any other department of the plant.

## **VI IMPROVEMENT OF RAILROAD FACILITIES**

### **The Railway System**

The Highland Division of the New York, New Haven & Hartford Railroad passes through the center of Bristol in two large curves following the contours along the sides of the hills. This road was laid out years ago and few of the grade crossings were eliminated. The present growth of industry along the railroad has taxed it to the limit and at present the further extension of the industrial developments and the expansion of railroad facilities must be closely co-ordinated.

### **Local Freight Yard**

The local freight yard at Main Street crossing is much too small to handle the volume of freight and express coming into Bristol and one of the immediate needs is the development of a much larger freight terminal. The plan suggests that such a freight yard could be constructed north of the present right-of-way between Queens Street and Blakeslee Street. This property is quite irregular but could be easily graded into a large level yard by removing the steep hill across from the Sessions Factory and using the material to fill up the valley to the east and west. This yard could be made of ample size to take care of considerable future industrial expansion and is so located as to be equally accessible to both the Bristol and the Forestville factories.

### **Freight House**

The present freight house should be enlarged and moved to a location near Summer Street thus increasing the size of the present yard which would take care of the heavier express business and all freight in less than car-load lots. The team tracks could be approached from Main Street as at present. Additional team tracks could also be developed in the future on the site of the present passenger station.

### **Passenger Facilities**

The passenger station at Bristol is already outgrown and is out of date so that it is only a matter of a few years before a new station will have to be considered. It is suggested the new station be located in connection with the other proposed public buildings. The site selected is on the south side of the right-of-way facing on Riverside Avenue between Mellen Street and Warner Court. This location would be conveniently accessible from all parts of the city and would have sufficient area in front of it for automobile parking space and general plaza treatment. Such an entrance to the city would be particularly agreeable opening onto the parkway and giving glimpses of the common, High School and other public buildings. The station itself could be of either a single or double level type and would connect with the train platforms by means of subway and stairs.

### **Railway Cut-off Possibilities**

Any study of the railroad problem of Bristol should take into consideration the possibility of the new cut-off location which would remove the through freight and passenger service from the center of the city and avoid much of the bad curvature and many of the grade crossing problems. We have suggested the line for such a possible cut-off running from Forestville north of the Pequabuck River and swinging around Federal Hill to join the present right-of-way just west of Burlington Avenue. This location would make possible the development of additional factory sites in the Forestville section.

## **VII IMPROVEMENT OF HOUSING, SCHOOLS AND LOCAL RECREATION**

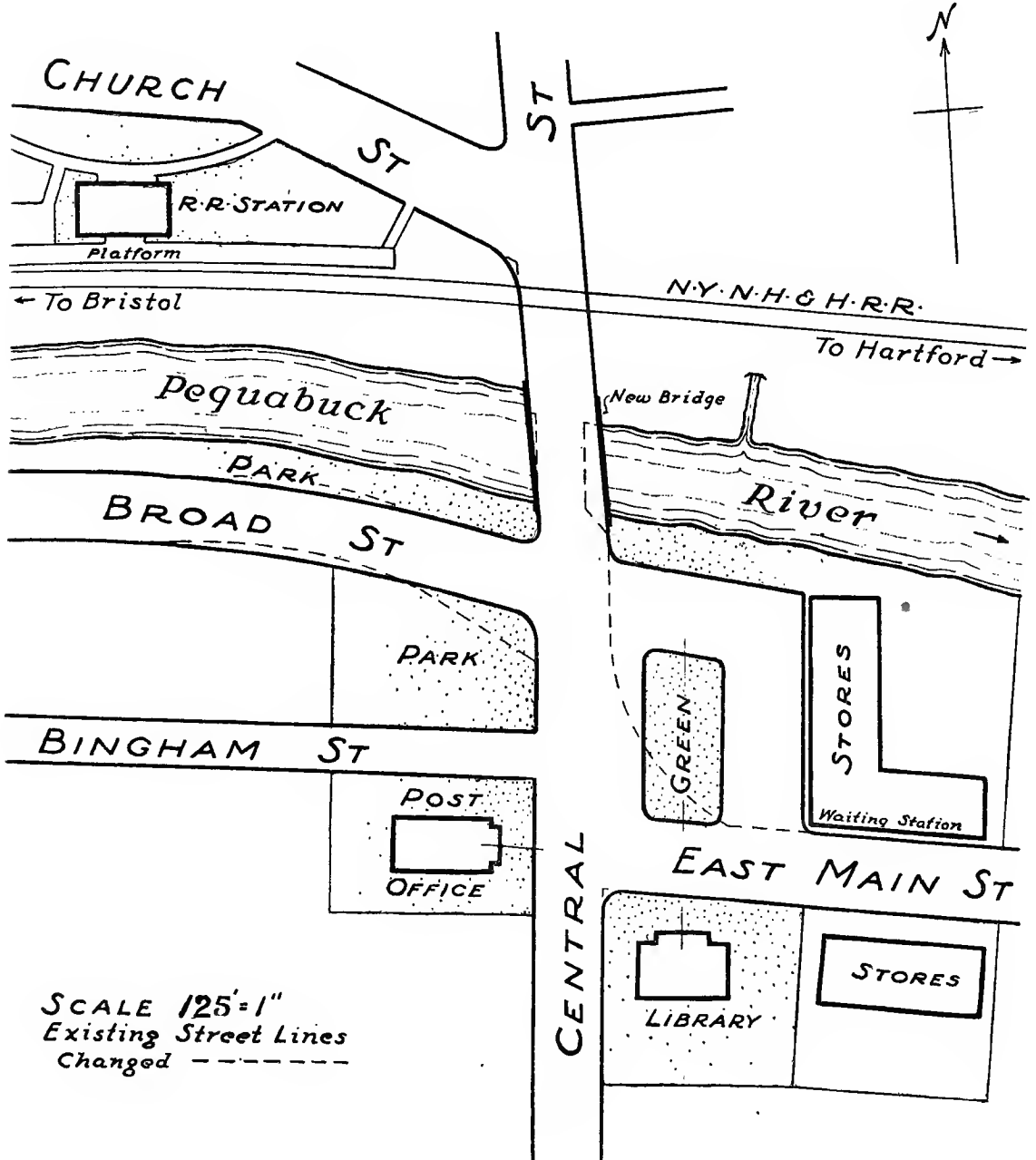
### **Housing**

In spite of the fact that Bristol has completed a number of definite housing developments there is still a demand for more houses and many operatives are still living in other places and traveling back and forth to Bristol for work.

### **Size of Lots**

Recent housing has been almost exclusively of a two-family type and the land allotted to each house has been extremely meagre. Bristol is in the midst of a very thinly built-up country and it seems a pity to restrict the lot and garden area as is at present being done. If in some cases available building land near the factories is difficult to obtain in tracts sufficiently extended to allow for large lots, it would be better to build even more compactly and then supply the deficiency by public park and playground areas and by allotment gardens located on good land but a little more remote.

DETAIL STUDY OF PROPOSED VILLAGE CENTER AT FORESTVILLE  
 JOHN NOLEN CITY PLANNER  
 HARVARD SQ CAMBRIDGE MASS





## **Allotment Gardens**

The use of allotment gardens in this country is in its infancy, but the idea of allotment gardens here and abroad is rapidly growing and has a widespread and permanent application as will be seen from a statement recently made in regard to Norway. "These garden allotments are now made permanent in many of the cities and the plots not subject to being built upon. Experience has seemed to indicate that 4500 square feet is the desirable size for one of these allotments. They are largely taken by dwellers in crowded districts or in apartment houses. There is permitted upon the allotment a small house suitable for a tool house and also for a shelter in case of bad weather and as a center for the family picnic when they go to the allotment for the day or for the afternoon, enabling them to prepare a dinner or supper on the grounds."

## **Available Land for Housing**

The central area of Bristol is nearly all built-up and new housing will for the most part have to seek new fields especially if it is to be done in large groups. The Burlington Avenue district offers a very good but very limited opportunity for development along the lines of the housing already started on the Barnes Tract but with perhaps a more liberal use of land.

## **Forestville Section**

The Forestville Section and particularly the property along King Street and Farmington Avenue is a future housing district of Bristol. This land is at present almost undeveloped country but with wonderful possibilities. To bring this area into immediate use it will be necessary to supply water, sewer and transportation. The sewer question in Forestville is now under discussion and the work should be gotten underway as soon as possible. When installed, extensions should be built into this new territory and the whole connected with the Bristol disposal system. The water question is much more simple but should be pushed along as rapidly as possible. Eventually a car line should be constructed along King Street but for the next year or two a good auto bus line should prove to be satisfactory.

## **South Mountain**

Housing developments are continually pushing up the lower slopes of South Mountain. This property is too steep for economic development and housing should not be encouraged in this direction. The problem of maintenance of streets in this section is even now a serious one, and any new development will only add to the difficulties.

## **Local Neighborhood Centers**

In a city like Bristol the schoolgrounds should not be thought of simply as recess playgrounds for the children but should be looked upon as local neighborhood centers supplementing the larger recreation centers of the park system. Each schoolground should contain from two to four acres of land and be developed as attractive park-like areas, but with the emphasis placed on the means for exercise and physical recreation.

## **Enlargement of Schoolgrounds**

The present schoolgrounds are all too small with the exception of the New Federal Hill site and the plan shows the enlargements that it would be desirable to make in connection with the other school properties. As far as possible, it is best that schoolgrounds should cover an entire block and extend to boundary streets. This insures better surroundings for the school and makes the playgrounds less objectionable in a residence section. The Appendix to this Report covers an analysis of the size and requirements for schoolgrounds.

## **Proposed New School Site**

One new school site is proposed to take care of the future need that will arise as the level areas between Bristol and Forestville are developed. We have suggested that the property now used as a city dump be held in reserve as a future school site and playground. It is well located within the area which will soon need its own school property and is of adequate size. In the meantime the city can still continue to fill on the property, bearing in mind its ultimate use.

## **Parks as a Good Investment**

Much of the country about Bristol is wild and rugged in character and at present is still in a natural state. Such land offers ideal opportunities for the country park or natural reservation, and no doubt many people will feel that with so much of this rough country so near to the city it is a waste of money for the Park Department to acquire any for the general use. Experience however has shown that as cities grow nearby land is taken into estates, acquired by institutions and opened up for general development, and that within comparatively few years it is very difficult to obtain any land at reasonable prices that is suitable or in large enough units to make desirable park property unless one goes far from the city center.

### **Suggested Park Reservations**

We feel strongly that Bristol should acquire as early as possible a number of these outlying tracts varying from 50 to 100 acres each. North of the city there are two good opportunities for parks of this kind, the first including Birge Pond and the valley north with an additional area running onto Chippin Hill, and the second the wooded area on the easterly slope of the hill north of Farmington Avenue between Burlington and Jerome Avenues. To the south we suggest that the valley running up the mountain from East and Wolcott Roads be acquired and developed as an approach to a large reservation on South Mountain. In addition to these larger tracts of park land it will be well for the city to acquire the water-shed areas in connection with the city reservoir which could be used for park purposes but which will become more and more necessary for the city to own to safeguard its water supply.

### **Lake Compounce**

Lake Compounce is at present one of the most popular summer resorts for Bristol people and to insure the possibility of the public use of this attractive body of water the city should acquire a small public reservation along the lake side.

### **Proposed New Recreation Centers**

Within the city itself there is already established a large recreation center at Rockwell Park which at present serves the entire population. This location is already rather remote from East Bristol and the southern part of the city, and is practically inaccessible from Forestville except for special occasions. To serve these two sections of the city it is proposed to develop the meadows and the land along the river as a large central playground tying in with the High School property and the proposed common, and also to acquire and develop a playground for Forestville taking in the entire block bounded by West Washington, Frederick and Andrews Streets.

### **Extension of Rockwell Park**

To insure proper boundaries for Rockwell Park we have recommended the acquisition of more land to the east extending as far as West Cemetery and along the Pequabuck River so as to control both sides of the stream. On Park Avenue a number of lots have been shown added to the park property to give a wider frontage on a boundary street and to remove developments likely to become objectionable.

### **Pequabuck River**

The most attractive natural feature in Bristol is the Pequabuck River and by acquiring narrow strips along its banks it will be possible to preserve its beauty and make it serve as a connecting parkway linking up Rockwell Park, Root Island Playground, the proposed Civic Center and Forestville into one continuous system. This parkway would not be wide enough to contain park drives but would be developed with paths and trails. The boundary streets over much of the distance would make pleasant drives.

### **Street Greens**

Where the plotting of new streets has formed triangular or other irregular areas unsuitable for subdivision we have suggested that they be developed as small local open spaces or greens which will help to relieve the bareness and monotony of the residential areas.

## **APPENDIX**



# THE SCHOOL PLAYGROUND

## I Space Required for Games

It has been estimated that under proper organization and supervision 300 small children can successfully play upon one acre of playground space. This of course eliminates the playing of highly organized games such as baseball, football, etc. On this basis each child will have about 145 square feet of playing area.

Table of Space Required for Simple Games

(Compiled from studies by W. A. Stecher)

Game	Players	Space Needed	Space per Player
Ring Games	30-40	625 sq. ft.	18 sq. ft.
Tag Games	30-40	1400 " "	40 " "
Dodge Ball	30-40	2000 " "	50 " "
Volley Ball	20	1650 " "	80 " "
Captain Ball	20	2275 " "	113 " "
Playground Ball	20	4900 " "	245 " "

Where the more highly organized games are to be played the shape of the playground demands consideration as well as its area. It is also necessary to orient the playing space to avoid annoyance by the sun.

Table of Space Required for Highly Organized Games

Game	Players	Space Needed	Space per Player
Baseball	18	105625 sq. ft.	5868 sq. ft.
Football	22	52800 " "	2400 " "
Basket Ball	10	4000 " "	400 " "
Field Hockey	22	59400 " "	2700 " "
Tennis	4	6608 " "	1652 " "

Running track and field sports must also receive attention and a location for them is usually dictated by local conditions. A track of less than one-quarter mile is undesirable. It can be given a position around a football field for instance. It is possible usually to take care of field sports such as Discus throwing, Hammer throwing etc., at one end of the running track.

The outdoor gymnasium in most instances contains a trapeze, parallel rings, horizontal ladder, climbing ropes or poles, sliding poles or slides, horizontal bars, and set of traveling rings. About 1,000 square feet would be a fair average of space occupied by the apparatus.

## II School Playground Standards

In the case of many cities and towns especially in the middle west and the south, the general practice is to use one block per school. A block may vary from two to ten acres; the smaller amount, after deducting area occupied by the school buildings would not allow sufficient playground. Another factor to be considered is the shallowness of blocks in some cases, which puts all play at a disadvantage. Little Rock, Ark., gives a full block to every white school. In Pueblo, Col., all but two schools have a full block. Dallas, Tex., has 16 schools with grounds more than one acre in extent. San Angelo, Tex., has all its schools except one, with an area of at least two blocks and two schools have 10 acres of play space. The City Plan for Flint, Michigan recommends that playground areas from 10 to 15 acres be provided for new schools. At Gary, Ind., where an advanced system of public recreation has been introduced, the first school built had two acres, second four acres, third 11 acres and later a lot used for a school site contained 20 acres. Now the standard provision for all public schools in Gary is a 20 acre tract, 10 acres being set aside for the school building with complete outdoor equipment and 10 acres adjoining reserved as a public park.

### 1 The City Grade School

a. *Existing School Sites.* It is frequently found that existing schools have not sufficient playground area and not only may this be too small but it is often of a shape and position detrimental to good recreation. The enlargement of existing playgrounds is not always possible because the schools are likely to be in built-up neighborhoods. The standard of requirements for playgrounds in developed areas of cities could not be sustained so high as in the case of new schools.

Mr. Francis R. North of the Playground and Recreation Association of America recommends 50 to 75 feet per child. At Schenectady, N. Y., a minimum of 60 feet was recommended.

b. *New School Sites.* No rigid rule can be fixed upon for determining the size of a school site in a new area. With cheap and open land, often easily obtainable, it should be possible to get an area of sufficient size to allow an adequate and satisfactory playground. An insufficient playground in such a locality would be inexcusable. An area of four acres is considered of minimum size for the ordinary city grade school and would accommodate 300 children. In many cases, 8 or 10 acres would not be too large an area to acquire.

## 2 *The City High School*

The high school is necessarily a larger type of educational institution than the grade school. It may accommodate a thousand or more pupils and often embraces manual training shops, laboratories, lecture rooms, assembly halls, libraries, gymnasiums etc. Flint, Mich. devotes 50 acres to its high school, Elmira, N. Y. 17 acres, New Trier, Kenilworth, Ill., 14 acres, Riverside, Calif. 28 acres, Pasadena, Calif. 16 acres. At the same time there are many high schools with a much smaller acreage and of course a less number of scholars in many cases. Morgan Park, Duluth, high school covers 10 acres. Tacoma, Wash., 10 acres; Portland, Ore. 6 acres. Assuming only 8 acres is available for playground use and 1,000 pupils are to be provided for, it has been recommended that it be apportioned as below:—

Table of Playground Apportionment for a city high school. Eight acres providing for 1,000 pupils and allowing 348 sq. ft. of play space each.

Baseball, Football,	4 acres
Hockey and Skating	
Tennis	2 “
“Indoor” Baseball	1 “
Volley Ball	$\frac{1}{2}$ “
Basket Ball	$\frac{1}{4}$ “
Running Track, etc.	$\frac{1}{4}$ “
	8 acres

Total

8 acres

## THE ACCEPTANCE OF NEW PLATS

### A Guide Prepared for the Use of City Plan Commissions

A number of cities have already formulated Rules and Regulations relating to the platting of land, layout of streets, dedication of public property, etc., but the practice of controlling such developments by a public board or commission is still in its infancy. That such control is essential to the proper and right growth of the city is now an undisputed fact, and is having an ever wider application. For example, the State of Ohio has an act of the Legislature that prohibits the recording of all plats within three miles of the city limits unless they have the written approval of the Platting Commissioner.

Many of the present rulings are inflexible and arbitrary, being too general and sweeping in their scope, thus preventing many interesting variations and innovations in planning that if properly worked out would produce a great improvement in the general character and charm of the city.

It is easy to set standard street widths and sections, for example, that may be very well of themselves but which produce a dreary monotony and prevent interest and beauty as well as economy that would come from a better planning that took more account of natural features and that overcame problems of grades and alignments by variations in the street section.

Another source of arbitrary monotony is the requirement that all streets be made continuous, and that all existing streets be connected up in new platting. This is very often a desirable thing to have happen, and of course all main leads and future thoroughfares should go through with as direct a line as is possible and still be consistent with grade and other conditions. It is also desirable, usually, to prevent dead end streets, and a new plat should be so laid out as to give outlets to all streets abutting on the property, but it is not necessary and often inadvisable that all these streets should be continued and a block system perpetuated that is perhaps poorly thought out, and not adaptable to the uses to which it is desired to put the new property.

A number of cities have endeavored to make provision for parks by requiring that each new subdivision set aside a certain per cent of its area for public recreational purposes. That is not a wise provision, as it produces a lot of small, scrappy pieces of park land that are in many cases unsuitable and really waste land that the property owner could not use for building purposes. In many instances it is desirable to get such land into the park system, but the park system must have something else than this class of property. Another fault with such a regulation is that it leaves the selection of park lands to the whim or fancy of individual land developers and gives no guarantee of a right location, adequate size, or a proper continuity of the park system.

The following suggestions as to what the City Plan Commission or other official agency ought to require of property owners or developers should not be incorporated in set rules and regulations, but are intended as a guide, and should be used with thought, common sense and judgment, and not as a coat of whitewash or a panacea.

### Districting

First of all the Commission should find out from the property owner what use the new subdivision is intended to serve, whether it is to be for high grade residences, small houses, stores or factories; for the answer to this question should determine not only its detail layout but its general acceptability to the city. Of course where a city has a zoning ordinance the type of subdivision would be influenced by the district in which it was located. The Commission, however, should endeavor to see that the lotting is done in such a way as to bring about the best use for which the property is intended. It is obvious, for instance, that if the property was in the heart of the industrial district, it would not be for the best interests of the city to have it subdivided into small blocks with the typical 40 foot lots.

### Blocks

The length of blocks will be determined in most cases either by topography or by the best subdivision of the property. Wherever blocks run less than 600 feet in length they produce an excessive percentage of street area and are therefore not economical. Unless there is some dominant topographical reason, blocks should not exceed 1,000 feet in length. Such continuous stretches of built-up property are inconvenient, interfere with circulation, produce monotony, and are considerable of a fire risk.

At the present time there is a general tendency to reduce the block width to the smallest possible dimension. Such a procedure will undoubtedly produce more lots to the acre but will not produce satisfactory home sites. Blocks much less than 200 feet wide should not be allowed, and

every effort should be made to induce real estate men to raise the standard for residential property to a minimum of 240 feet.

### Lots

Wherever possible lot lines should be laid off at right angles to the street line, or in the case of curved streets, at right angles to the point of tangency. Occasionally this will be found impracticable, but it will only be in an exceptional case.

The depth of the lots will be governed by the block widths, and in the case of residential property even of the lower class should be kept, if possible, to the 120 foot dimension. The width of the lots will vary with the type of building to be erected, but for all residential purposes the minimum should be at least 40 feet, and it will be a great deal better to set the standard at 45 feet, or better still, at 50 feet.

Restriction lines should be established on all lots giving the set-back from the streets and the distance from side and rear lines that should not be built upon. For all minor streets the set-back should be at least 15 feet with an increasing amount on the more important streets. Where there is a possibility of a street being widened at a future date the establishment of a building line sufficiently far back to allow for the widening will allow the work to be done in the future without the extra cost involved in the wrecking of building developments.

### Streets

The first point in judging the street layout should be to decide whether the streets properly serve the area through which they extend, and whether they lead directly and conveniently to those places to which people will want to go. The second point should be to see if the street system as a whole fits in properly with the general plan of the city and includes all those features which are necessary for the proper development not only of this particular property, but of other adjacent properties.

Simple profiles should be submitted with the layout plans showing the approximate grades of the new streets. The question of maximum and minimum grades varies in different sections of the country, but in general practice it is well to have a minimum grade of at least five-tenths of one per cent. and the maximum grade should not be higher than five per cent., except on minor streets and in the case of very hilly country. Where property is to be used for business a grade greater than three per cent. will be a handicap and will be found to hamper business expansion. In very hilly country the maximum grade will be governed by established grades in the vicinity, but in all ordinary cases the maximum should be set at ten per cent.

In locating new streets the Commission should see that owners are not planning the grading in such a way as to produce excessive cuts and fills, as such conditions will result in a large number of unfavorable lots, either placing the houses high above or below the street, or else requiring expensive cuts and fills.

The width of new streets should be determined by the use to which they will be put, and not by an arbitrary ruling of some minimum dimension. Minor residential streets that are short in length and not in the line of through travel could well be kept down to 40 feet in width, while future main thoroughfares should be required to be at least 80 feet in width and oftentimes as much as 100 or 120 feet. Practice of establishing a minimum standard width of 50 or 60 feet usually results in all streets being laid out at that minimum dimension, and means that in some cases the streets will be wider than need be and in others narrower than they ought to be.

The subdivision of the street into roadway, sidewalks and planting strips will vary not only with the width of the street, but also with the particular use to which that particular street is to be put. Roadway widths should be built up on eight foot units, but in the case of a street with provision for only two lines of vehicles it is better to allow an extra two feet, making an eighteen foot roadway. In wide streets an even number of traffic lanes is advisable, for in the case of an odd number the center lane is used by vehicles passing in either direction and is therefore dangerous.

Sidewalks are usually built up on two foot units, but in the case of minor streets a five foot walk is more serviceable than one only four feet in width. Where planting strips are to be used for trees they should be at least six feet in width, as trees will not do well in narrower areas, especially where the roads and sidewalks are constructed of impervious material. It is customary in many places to place the sidewalk from one to two feet away from the property line. This practice produces very satisfactory results when the space is used for vine planting in cases where retaining walls are built on the property line. This space is also found to be useful in residential districts where planting is done on the front of the lot and shrubs would under ordinary circumstances tend to obstruct the sidewalk.

In cases where half streets have already been accepted on adjacent property, the other half should be required before accepting a new plat. All through streets should be continuous and of the same width as the corresponding street on adjoining plats. Where there is a boundary street between two properties it is not necessary that all streets should be carried through, but in all cases where the off-set is less than the width of the street the new street should be made continuous with



the old or the transition from one to the other provided for by a traffic square or some similar arrangement. The streets that form a continuation of existing streets should carry the same name.

In general no so-called dead end streets should be accepted, but it is often very desirable, especially in rough country, to develop certain sections of the land by means of terraces or courts, and if these are properly designed with adequate provision for turn-arounds, they are not only attractive, but also an economical and satisfactory method of subdivision.

### **Parks and Recreation Areas**

Before the Commission accepts a plat they should see that all land essential to the park system is set aside for public use and not lotted. Very often it will happen that a piece of property contains land decidedly unsuitable for building, and still not actually necessary to the city's park system. Where such a condition occurs it is sometimes very advantageous to the neighborhood to have such land set aside as a local park, playground, or allotment gardens.

### **Public Building Sites**

Common practice is for an owner to allot the entire subdivision as though it was to be developed solely for residential purposes, and then after many of the lots have been sold off, thus establishing the system, the city comes into the market to buy land for necessary schoolgrounds, fire stations and other public works. The result is that they not only have to pay the additional costs for lots due to their appreciation in value, but also have to take second choice in the matter of location, it very often happening that the best locations are already built upon, and therefore too expensive. It is perfectly possible to determine in advance what the city will need in the way of public property, and the property owner should be required to make provision for these needs at the time that the property is subdivided. Often such property is made a gift to the city for the sake of its advertising value, and if on the other hand the city has to buy it, it is able to obtain the land most wanted, and at lower prices.













